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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/762,276

01/23/2004

Yoshinori Uzuka

1614.1143D

4702

21171

7590

09/21/2005

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EXAMINER

NGUYEN, HUNG THANH

ART UNIT

PAPER NUMBER

2841

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/762,276

Applicant(s)

UZUKA ET AL.

Examiner

HUNG T. NGUYEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>1/23/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1, 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Stucke (US 5335146).

Regard claim 1: Stucke discloses in figure 1 an information-processing device comprising: at least one crossbar-board (24) having a switching element (column 1-3) mounted thereon, a plurality of back panels (10) detachably connected electrically and mechanically to different sides of said crossbar-board; and at least one motherboard (28) detachably connected electrically and mechanically to each of said back panels (10), the motherboard (28) having an information-processing semiconductor element (see column 1, line 8-68) mounted thereon, wherein said crossbar-board (24) has a rectangular shape (see board 24), and said back panels (10) are connected to longitudinal sides of said crossbar-board (24), the plurality of the back panels (10) opposing each other (see figure 1).

Regard claim 2: Stucke disclose in figure 1, the information-processing device wherein said crossbar-board further comprises connectors (14) connecting the longitudinal sides of said crossbar-board (explain in claim 1) to said back panels (explain in claim 1), each of the connectors (14) having a connecting face parallel

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to a surface (see figure 1) of said crossbar-board (explain in claim 1), said back panels (explain in claim 1) further comprise connectors (14) respectively connecting said back panels (explain in claim 1) to the longitudinal sides of said crossbar-board (explain in claim 1), each of the connectors (14) having a connecting face perpendicular (see figure 1) to a surface of each of said back panels (explain in claim 1), and said crossbar-board (explain in claim 1) is movable in a direction perpendicular (see figure 1) to the surface thereof so as to connect said connectors (14) thereof to said connectors (14) of said back panels (explain in claim 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stucke (US 5335146) in view of Durston et al. (US 6154373) and Debord et al. (US 6932617)

Regard claim 3: Stucke discloses all the elements of the information-processing device as described with respect to claim 1.

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Stucke does not disclose the crossbar-board further comprises at least one extension crossbar-board connected at an end of said crossbar-board in a longitudinal direction.

Debord et al. disclose the crossbar-board further comprises at least one extension crossbar-board connected at an end of said crossbar-board in a longitudinal direction.

Stucke and Debord et al. are analogous art because they are from the same field of endeavor to make high density circuit boards

At the time of the invention, it would have been obvious to a person of ordinary skill in the art, to make circuit board of Stucke with and extension board to reduce less interconnection and to reduce cable

Therefore, it would have been obvious to combine Stucke with Debord et al. for the benefit of reducing less connection and less cable used.

Regard claim 4: Stucke discloses in figure 1, an information-processing device comprising: at least one crossbar-board (explain in claim 1) having a switching element (explain in claim 1) mounted thereon, a plurality of back panels (explain in claim 1) detachably connected electrically and mechanically to different sides of said crossbar-board (explain in claim 1), and at least one motherboard (explain in claim 1) detachably connected electrically and mechanically to each of said back panels (explain in claim 1), the motherboard (explain in claim 1) having an information-processing semiconductor element (explain in claim 1) mounted thereon wherein said crossbar-board has a polygonal shape, and the plurality of

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the back panels are connected to the different sides of said crossbar-board, the plurality of the back panels being more than two.

Stucke does not disclose the crossbar-board has a polygonal shape and the back panels being more than two.

Costner disclose the polygonal shape

Debord et al. disclose the the back panels being more than two.

Stucke, Costner and Debord et al. are analogous art because they are from the same field of endeavor to make high density electronic boards.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to make boards of Stucke with polygonal shape and the back panels being more than two as taught by Costner and Debord et al.

Therefore, it would have been obvious to combine Stucke, Costner and Debord et al. for the benefit of meeting the application's requirements.

Regard claim 5: Stucke discloses in figure 1, an information-processing device comprising: a crossbar board-back panel assembly (explain in claim 1) comprising a plurality of crossbar-boards (explain in claim 1) each having a switching element (explain in claim 1) mounted thereon, and a plurality of back panels (explain in claim 1) detachably connected electrically and mechanically to different sides (see figure 1) of each of said crossbar-boards (explain in claim 1), and a plurality of motherboards (explain in claim 1) detachably connected electrically and mechanically to each of said back panels (explain in claim 1), each of the plurality of the motherboards having an information-processing semiconductor element (see column 1, line 8-68) mounted thereon, wherein each

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of said back panels (explain in claim 1) is formed by a plurality of strip panels arranged at positions corresponding to said motherboards, the plurality of the strip panels crossing said crossbar-boards.

Stucke does not disclose the plurality of strip panels arranged at positions corresponding to said motherboards, the plurality of the strip panels crossing said crossbar-boards.

Durston et al. disclose the plurality of strip panels arranged at positions corresponding to said motherboards, the plurality of the strip panels crossing said crossbar-boards.

Stucke and Durston et al. are analogous art because they are from the same field of endeavor to make high density circuit board.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art, to make panels of Stucke with strip as taught by Durston.

Therefore, it would have been obvious to combine Stucke with Durston et al. for the benefit of exchange boards.

Regard claim 6: Stucke discloses in figure 1, an information-processing device comprising: a crossbar board-back panel assembly (explain in claim 1) comprising a plurality of crossbar- boards (explain in claim 1) each having a switching element (explain in claim 1) mounted thereon, and a plurality of back panels (explain in claim 1) detachably connected electrically and mechanically to different sides (see figure 1) of each of said crossbar-boards; and a plurality of motherboards (explain in claim 1) detachably connected electrically and mechanically to each of said back panels (explain in claim 1), each of the

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plurality of the motherboards (explain in claim 1) having an information-processing semiconductor element (explain in claim 1) mounted thereon, wherein each of said back panels (explain in claim 1) is formed by a plurality of strip panels arranged at positions corresponding to said crossbar-boards, said motherboards crossing the plurality of the strip panels.

Durston et al. disclose the plurality of strip panels arranged at positions corresponding to said motherboards, the plurality of the strip panels crossing said crossbar-boards.

Stucke and Durston et al. are analogous art because they are from the same field of endeavor to make high density circuit board.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art, to make panels of Stucke with strip as taught by Durston et al.

Therefore, it would have been obvious to combine Stucke with Durston et al. for the benefit of exchange boards.

Relevant Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Stephen (US 5352123) teaches the Switching Midplane, Evan et al. (US 4838798) teaches the High Density Board to Board, Takashima (US 5091822) teaches the Radial Type of Parallel Bus Structure. Stucke (US 5335146) teaches High Density Packaging for Device, Wells (US 4237546).

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG T. NGUYEN whose telephone number is 571-272-5983. The examiner can normally be reached on 8:00AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, KAMMIE CUNEO can be reached on 571-272-1957. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

HN

Hung Thanh Nguyen

September 9, 2005


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